Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor
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Mr. Jim Martin
Regional Director
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Dear Jim:

I know we have a different take on this, but we at DEQ believe that SB 367 is a great step towards water quality improvements in this state. It is a bill that was drafted by the stakeholders, with wide support from environmental groups, industry, and the DEQ, and received a unanimous vote by republicans and democrats on the senate floor. This bill will afford us many opportunities to move forward in the right direction.

I would argue that Montana has lead the region in our efforts to develop nutrient criteria while successfully designing an appropriate means of implementation. After nearly 10 years of work developing numeric nutrient criteria, 6 years of work and research to craft a rational implementation policy, and 2.5 years of discussions with stakeholders, we believe SB 367 is a viable, realistic starting point.

The general variance process provided in Senate Bill 367 is a reasonable first step towards implementing strict numeric surface water standards for nitrogen and phosphorus across the state. Most importantly, the bill lays out a structured path forward for achieving the criteria over an approximately 20-year timeframe, a timeframe that is considered reasonable for "determining if a water quality problem is temporary and correctable" (USEPA memo 8EPR-EP). The bill includes some key features I'd like to point out to you:

- permit limits that will result in immediate improvements to water quality
- a sunset of these limits in 5 years to ensure stricter permit limits are developed during subsequent rule making
- a recurring 3-year review process
- a requirement that dischargers receiving a variance carry out nutrient-reduction optimization studies
- encouragement of alternative approaches to nutrient reductions that involve non-point sources

The bill will allow the DEQ to proceed with adoption of our criteria now, which is desperately needed for TMDL development. Additionally, adoption of numeric nutrient water quality standards will trigger the Phosphorus Ban Act, 75-5-901, et. seq., MCA.

It might help to have a better understanding of the current conditions in Montana, and how SB 367 would result in improvements to these conditions. Following are our best estimates of the current status of discharges in Montana:

1. About 70% of facilities whose discharge is greater than 1 MGD will require upgrades just to meet the variance treatment minimums in SB 367 (either 1 mg TP/L, 10 mg TN/L, or both). Concerning discharge volume, these facilities — although there are only about 11 of them — represent about 89% of the total discharge volume from all facility types (including lagoons).

2. About 30% of mechanical facilities whose discharge is less than 1 MGD will require an upgrade to meet the variance treatment minimums in SB 367 (either 2 mg TP/L, 15 mg TN/L, or both). There are approximately 45 such sized facilities statewide, but their combined discharge volume is only about 3% of the total discharge volume from all facility types (including lagoons).

3. Lagoons, which under SB 367 would be required to maintain current performance, represent about 8% of the total effluent discharge volume.

4. About 50-75% of facilities would require nutrient monitoring above what is already required.

The statistics above show that implementation of SB 367 would immediately improve water quality in Montana, which we believe is the ultimate goal.

The starting point concentrations for general variances found in the bill (e.g., 1 mg TP/L and 10 mg TN/L) may not be the lowest concentrations that could economically be achieved by every discharger today. Arguably, some dischargers could do better. For most dischargers though, monitoring and subsequent reduction of nutrients in their discharge, even to the concentration levels in SB 367, will be a significant and costly new regulatory requirement.

In reviewing available information pertaining to water quality standards variances in the CWA, USEPA's 1995 guidance, various EPA memos, the mercury variance approach used in the Midwest, etc., it appears to us that the approach States may use to establish variances is flexible. USEPA's Water Quality Standards Handbook (1993) indicates that EPA has approved State variances in the past and will continue to do so if the following conditions are met:

- Each variance is part of the water quality standard.
- Meeting the standard is unattainable based on 40 CFR 131.10(g).
- Treatment more stringent than that required under 303(c)(2)(A) has been considered (note: not applicable here, applies essentially to toxics).
- Criteria are maintained on the stream for the dischargers who have not received a variance.
- The discharger continues to meet requirements for constituents other than the pollutant(s) in question.
- The variance is granted for a specific period and must be re-justified every 3 years.
- The discharger must meet the water quality criteria (i.e., the standards) at the end of the variance period, or a make a new demonstration of "unattainability."
- Reasonable progress is being made toward meeting the standards.
- The variance was subject to public notice.

For nitrogen and phosphorus criteria in Montana, all of the statements above are either true, allowed for or required in SB 367, and/or will be carried out by the DEQ. The primary purpose of a variance

is "to allow time to evaluate attainability of standards prior to forcing expensive controls" (USEPA Standard Academy 2005). We couldn't agree more.

As far as we can tell, the only requirement pertaining to variances, per the CWA, is that *meeting* the numeric nutrient standards (presumably today) would cause substantial and widespread economic impacts, per 40 CFR 131.10(g). This requirement is re-emphasized in the transmittal memo (EPA-823-B-95-002) attached to USEPA's 1995 interim economic assessment guidance.

The DEQ can show that meeting the nitrogen and phosphorus criteria across the state today *would* cause substantial and widespread economic harm. Lagoon operators in small towns would be looking at multi-million dollar upgrades, and many smaller (> 1 MGD) mechanical plants would be facing upgrades and higher treatment costs in excess of $3.00/gallon•day for advanced treatment, a financial threshold USEPA has already accepted as equating to a substantial and widespread economic harm threshold for end-of-pipe mercury removal in the Midwest (e.g., Foster Wheeler Environmental 1997; Michigan memo to USEPA December 18, 2009)[1]. Further, for nitrogen, the limits of practical wastewater technology (at very high treatment cost) still cannot achieve the criteria end-of-pipe today.

There is some history related to the topic that can help here. USEPA headquarters provided a memo (July 3, 1979) to regional water quality standards coordinators pertaining to variances. The memo indicates that variances may adversely affect but not eliminate the designated use. The DEQ believes this is a fair appraisal of the situation for nutrients in our surface waters, even at the general variance treatment levels provided in SB 367; current levels of treatment are in many cases causing harm to but not eliminating the more sensitive uses. USEPA's 1995 guidance document was a subsequent step in the national discussion on variances. But it never rose beyond the level of "interim recommendation," and was flawed in that it was silent on the solution (i.e., at what level should the variance be set?) if economic hardship was demonstrated. It was apparently never consulted in the Midwest mercury variance case presented above, even though it had been out for 2 years by 1997.

More recently, EPA responded by letter to me (8EPR-EP, September 2010) about the DEQ's proposed approaches to granting individual (as opposed to general) variances. In the letter, USEPA starts by quoting from a 1998 Advanced Notice of Proposed Rule Making (ANPRM), which stated that a variance is acceptable if "...the State or Tribe demonstrates that meeting the standard is unattainable based on one or more of the grounds listed in 40 CFR 131.10(g) for removing a designated use, *existing uses are protected, the variance secures the highest level of water quality attainable short of achieving the standard* and the State or Tribe demonstrates that advanced treatment and alternative effluent control strategies have been considered." (our emphasis added). USEPA is emphasizing here that, in order to get a variance, meeting water quality standards would cause economic hardship (this we agree with); but they then raise the bar by stating that the beneficial use must be protected by the variance (contradicting both logic and their 1979 memo), and that the treatment level in the variance must be set as high as possible (again, at the economic "pain" threshold).

[1] In the 1997 economic study, a range of $2-5/gallon•day for wastewater treatment was considered the economic impact threshold. Applying a simple 3% inflation factor (1997 to 2011) to the lower end of that range equates to about $3/gallon•day in $2011.

What is not revealed in the letter to me is that in 1998 States, including Montana, commented extensively on this particular ANPRM, and in fact no new regulations requiring variances to meet conditions given above have ever been adopted at the federal level. Therefore, the "requirement" to set a variance treatment threshold to the edge of economic pain was merely an idea, an idea that never gained any traction. As stated in the ANPRM in 1998, "This ANPRM by itself will have no regulatory impact or effect." It is for this reason we believe the phased approach to establishing and then updating general variance requirements is reasonable and, as important, legally defensible.

In closing, we believe that the overall process laid out in SB 367 is a logical, practical, and well-supported approach to working towards better water quality through the control of nitrogen and phosphorus pollution. It will result in immediate reductions of nutrients in wastewater as we move towards ultimate achievement of the standards, which are not yet adopted. As stated by USEPA, the primary purpose of a variance is to allow time to evaluate attainability of standards prior to forcing expensive controls. We believe that the State has substantial latitude to craft the process by which the nitrogen and phosphorus standards are to be met over time, that variances as they have been crafted in SB 367 are a viable approach, and that approximately 20 years is a reasonable time frame over which to determine the most efficient and practical ways to reduce nutrient pollution in our surface waters. Even though the variance approach requires time to achieve the standard, it is still superior to use removal or downgrade, alternative options when waterbodies exceed standards.

Sincerely,

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